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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,404	09/16/2003	Xiang-Dong Yin	70566-0016	9674

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EXAMINER	
JOYNER, KEVIN	
ART UNIT	PAPER NUMBER
1744	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/22/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/662,404	YIN ET AL.	
	Examiner	Art Unit	
	Kevin C. Joyner	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 14 November 2006.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-17 is/are pending in the application.

4a) Of the above claim(s) 8-17 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 9/16/2003, 3/11/2005.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's election of Group I in the reply filed on November 3, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 8-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 3, 2006.

Claim Objections

3. Claim 2 objected to because of the following informalities: Line 1 produces an unclear limitation concerning "wherein end portion." Applicant may want to correct the phrase so that it reads, "wherein the end portion." Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brutti et al. (U.S. Patent No. 6,521,047) in view of Riba (U.S. Patent No. 4,881,493) and/or Morgandi (U.S. Patent No. 6,067,403).

Brutti discloses a steam on demand generator (as shown in Figure 1), comprising a thin walled stainless steel cup (Referenced as an evaporation chamber 16 and disclosed as stainless steel in column 3, lines 44 and 45 with thin walls as shown in Figure 1), and cap assembly (as broadly defined, the inlet head (12) is a cap), a heating device connected to the stainless steel cup (as disclosed in column 4, lines 6-9), and capable of heating the cup assembly and an interior thereof (referenced as numerals 36, 38, 40, 42, and 44), a water injection device that is a hollow cone spray nozzle in the stainless steel cap that is capable of supplying water to the cup, (As disclosed in column 3, lines 14-17 and as shown in Figure 2; the injector (18) is a hollow cone spray nozzle), capable of supplying water to the cup assembly. It is also noted that the limitations of the steam outlet (14) and a temperature sensor within the cup assembly (as shown in Figure 1, numerals 54 and 56), are met by Brutti as well. The device disclosed is also capable of supplying water in quantities so that the interior of the cup assembly remains essentially dry during steam generation. Brutti is silent with regards to the connection method of the heating device and an end portion of the temperature device to the cup, however brazing is considered a conventionally known technique to connect two materials in the steam generating art. Riba as well as Morgandi provides examples of this conventional teaching showing that it is known in the art to use the technique of brazing to connect two different materials in a steam generator as disclosed in column

2, lines 9 and 10 of Riba and column 4, lines 11-20 of Morgandi. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to connect the heating device and an end portion of the temperature sensor in the apparatus of Brutti to use a brazing technique as is a known and conventional connecting technique as exemplified by Riba and/or Morgandi.

Concerning claims 2-4, Brutti continues to disclose that the temperature sensor is a thermocouple (column 4, line 16), and that it directly connects the inside wall (as disclosed in column 4, lines 15-21 and shown in Figure 1), which receives a spray from the hollow cone spray nozzle (As shown in Figure 1 and disclosed in column 3, lines 29 and 30, the spray nozzle is set at an angle which would spray the fluid onto the side walls of the tube. The first guide part (46), which is an inside wall would also receive spray from the spray nozzle.) with a tip end surface remaining exposed after connecting (As shown in Figure 1, both thermocouples (54 and 56) show a small end tip that is exposed into the channels of the tube.). However, Brutti does not disclose the technique used to connect the two materials. As discussed above, brazing is considered conventionally known technique used to connect two materials in the steam generating art as exemplified by Riba and/or Morgandi. Furthermore, Morgandi provides this conventional teaching in column 4, lines 21-26; showing that it is known in the art to use the technique of brazing to connect the thermocouple to the inside wall in a steam generator. The reference further states that a portion of the tip end surface is exposed after the brazing (as shown in Figure 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to

connect thermocouple to the inside wall in the apparatus of Brutti to use a brazing technique as is a known and conventional connecting technique in particular for connecting thermocouples to the inside wall as exemplified by Morgandi. Concerning claim 5, Brutti continues to disclose that the heating device is a heating coil that surrounds a lower portion of the cup assembly, the lower portion including the inside wall (As shown in Figure 1 and disclosed in column 4 lines 6-9, the heating means coaxially surrounding the lateral surface of the tube is a heating coil as broadly defined.).

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brutti et al. (U.S. Patent No. 6,521,047 in view of Riba (U.S. Patent No. 4,881,493) and/or Morgandi (U.S. Patent No. 6,067,403) as applied to claims 1-5 above and further in view of Moore (U.S. Patent No. 3,750,399).

Regarding claim 6, Brutti in view of Morgandi and Riba is relied upon as set forth in reference to claims 1-5 above. Morgandi also discloses that a stud is brazed to a bottom of the cup, the stud providing a channel for the temperature sensor to enter the interior (As disclosed in column 4 lines 31-36 and shown in Figure 2, the two endpieces are studs that are found at the bottom of a cup. The endpieces are referred to being welded to the cup, but as stated in column 4, line 14; brazing is the form of welding being used in the apparatus.). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the steam generator of Brutti in view of Riba and/or Morgandi to include a stud brazed to the bottom of the cup in order to provide a channel for the temperature sensor as exemplified by Morgandi as is an

efficient and effective way to connect the stud to the cup and allow the sensor access to the inside of the cup. Morgandi however, is silent with regards to specific materials of the stud; therefore, it would have been necessary and thus obvious to look to the prior art for conventional materials. Moore provides this conventional teaching showing that it is known in the art to use stainless steel for all the high temperature components of a steam generator in column 4 lines 36-39. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to make the studs in the device of Brutti, Riba, and Morgandi from stainless steel as exemplified by Moore as such is considered a conventional material for the parts in the device.

Regarding claim 7, Brutti in view of Morgandi and Riba is relied upon as set forth in reference to claims 1-5 above. Morgandi continues to disclose in column 4 lines 31-36, that the temperature sensor is brazed to a portion of the stud. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Brutti to braze a portion of the temperature sensor to the stud as exemplified by Morgandi in order to secure the sensor in a fixed position.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin C. Joyner whose telephone number is (571) 272-2709. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCJ

GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER